

Title: Polynucleotide and Polypeptide Fat Metabolism

Regulators and Uses Thereof

Applicant: Ruvkun et al.

Serial No.: 10/617,351

Docket No.: 00786/423002 Customer No.: 21559

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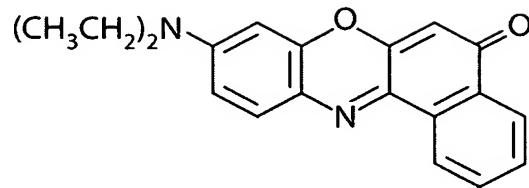


Fig. 1A

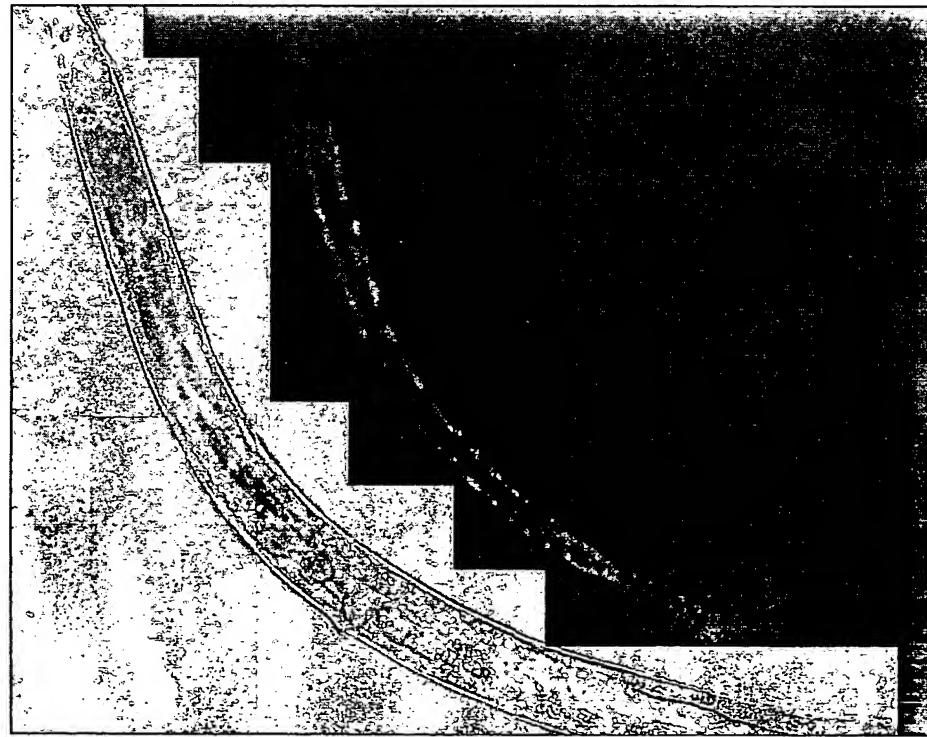


Fig. 1B

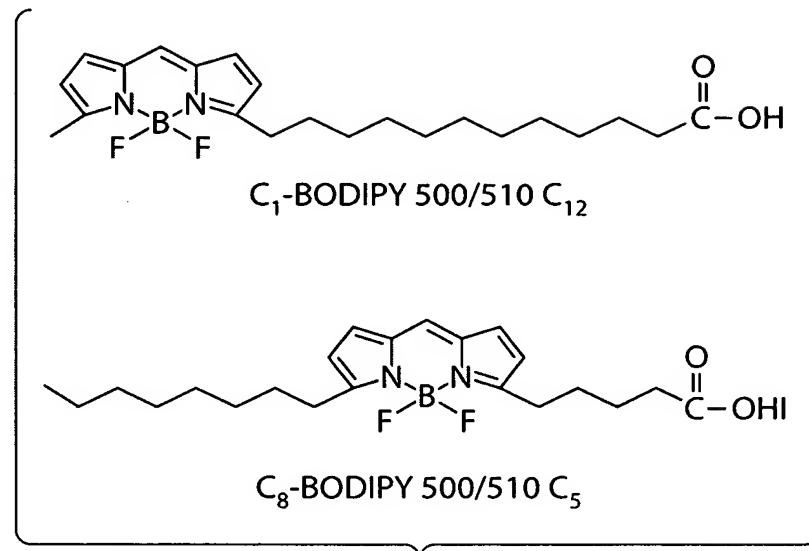


Fig. 2A

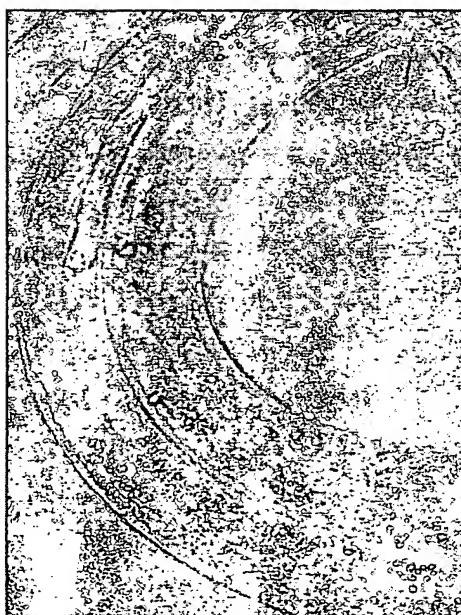


Fig. 2B

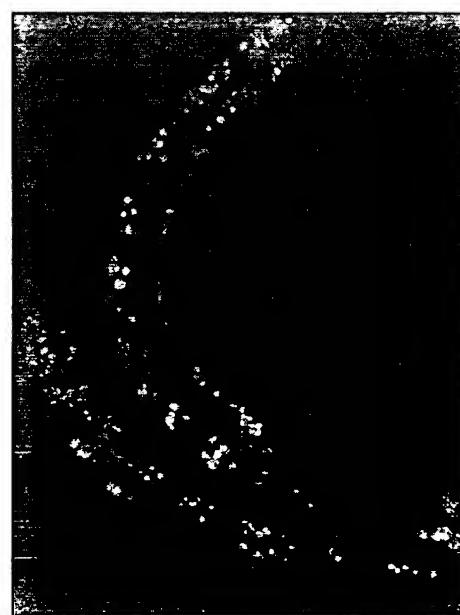


Fig. 2C

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Fig. 2D

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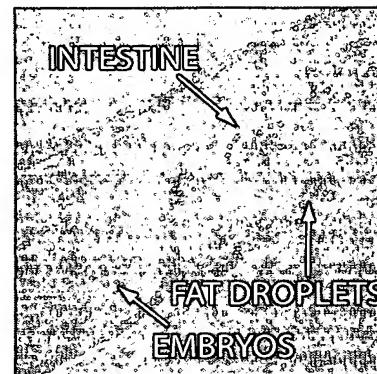


Fig. 3A

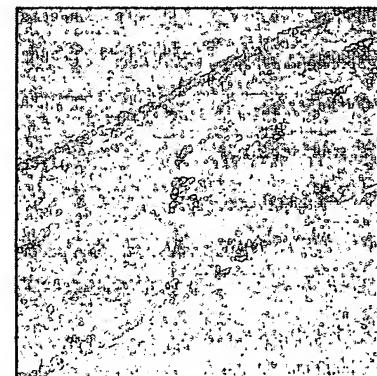


Fig. 3B

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Fig. 4A



Fig. 4B

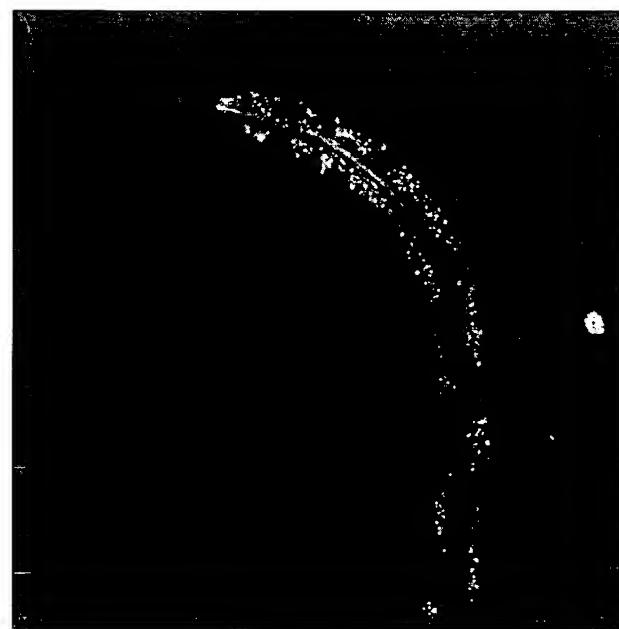


Fig. 4C



Fig. 5A



Fig. 5B

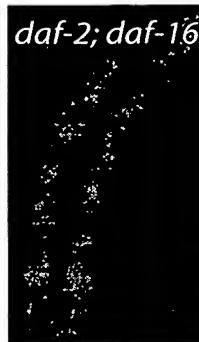


Fig. 5C



Fig. 5D

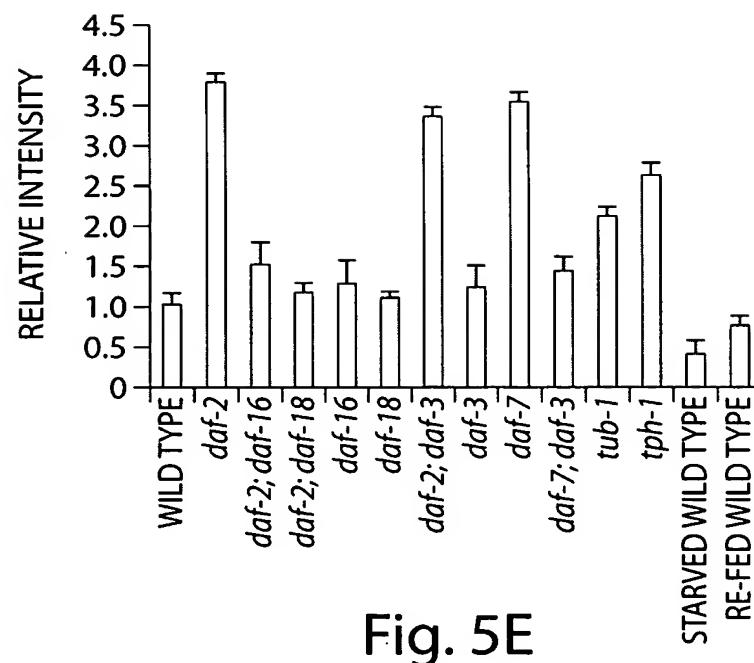


Fig. 5E

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Fig. 6A

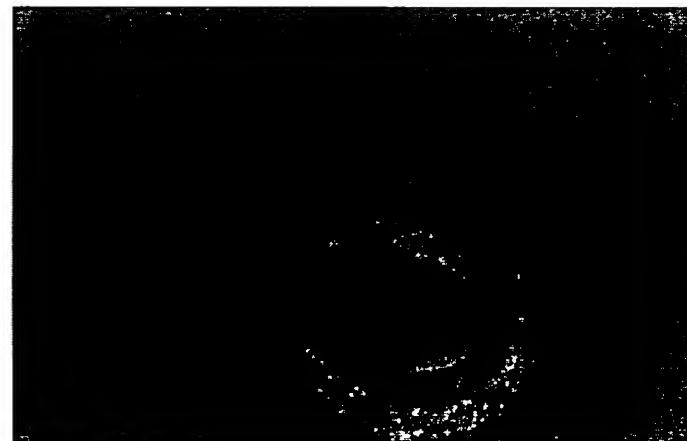


Fig. 6B

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Fig. 6C

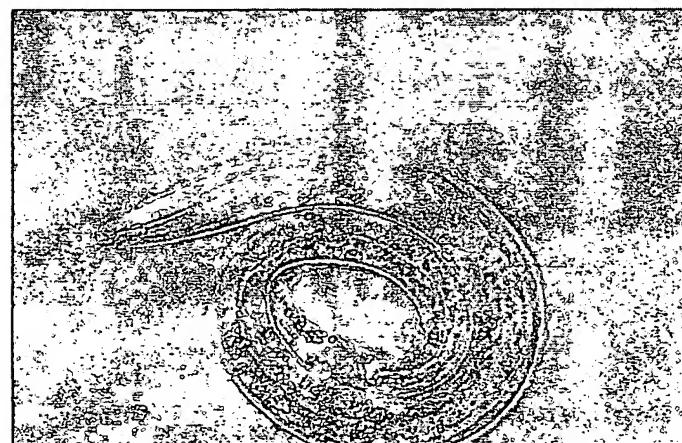


Fig. 6D

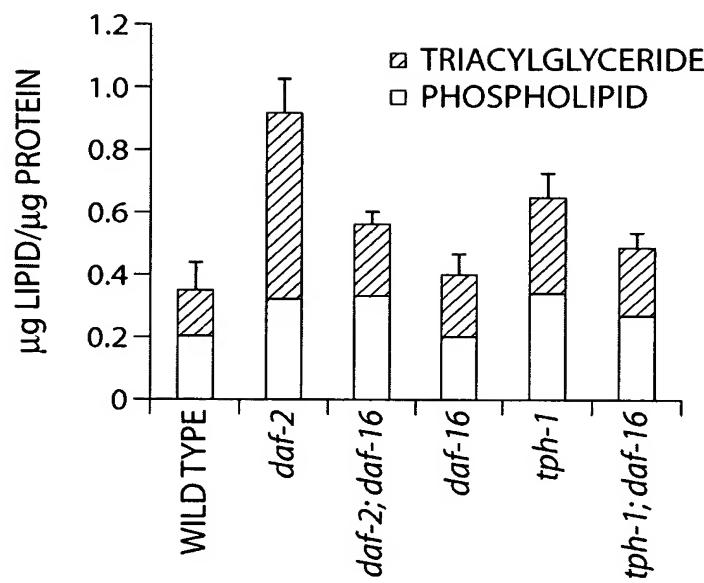


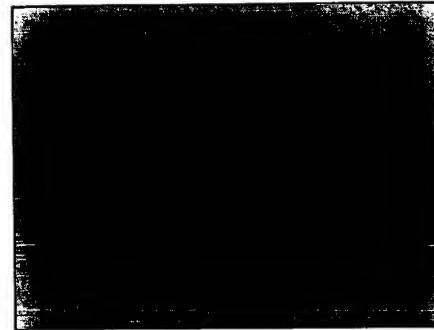
Fig. 7



WILD TYPE

STARVED

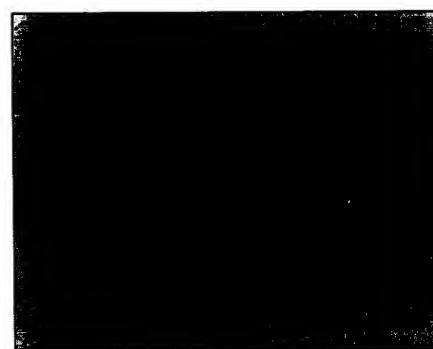
Fig. 8C



daf-2(e1370)

STARVED

Fig. 8F



WILD TYPE

AICAR

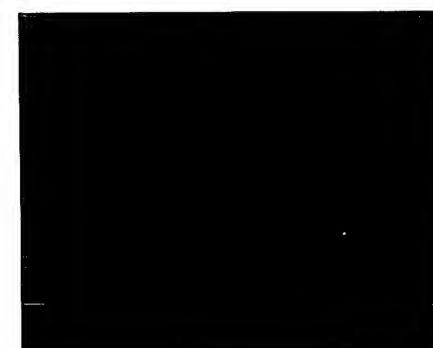
Fig. 8B



daf-2(e1370)

AICAR

Fig. 8E



WILD TYPE

AICAR

Fig. 8A



daf-2(e1370)

Fig. 8D

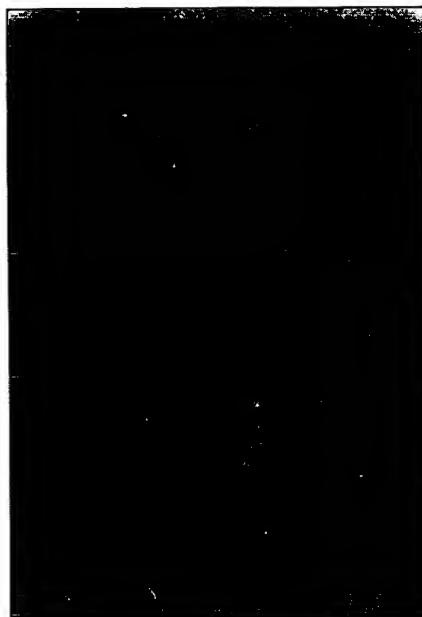


Fig. 9A

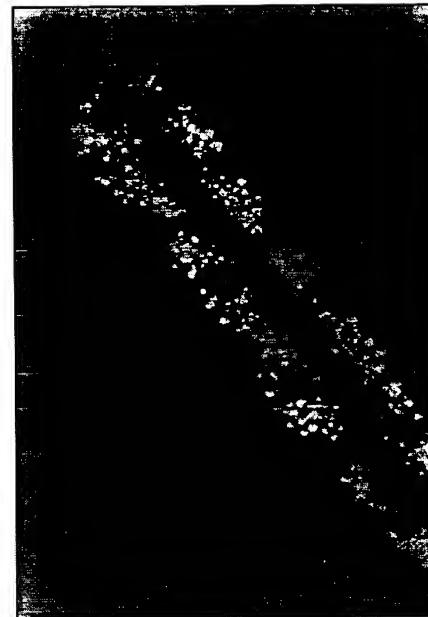


Fig. 9B



Fig. 9C



Fig. 9D

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Fig. 9E

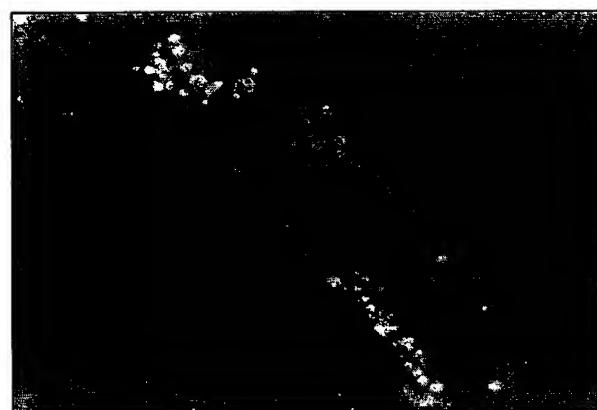


Fig. 9F



Fig. 9G



C12-BODIPY



C12-BODIPY



C12-BODIPY

WILD TYPE
Fig. 10A

lpo-1
Fig. 10C

lpo-2
Fig. 10E



NILE RED



NILE RED



NILE RED

WILD TYPE
Fig. 10B

lpo-1
Fig. 10D

lpo-2
Fig. 10F

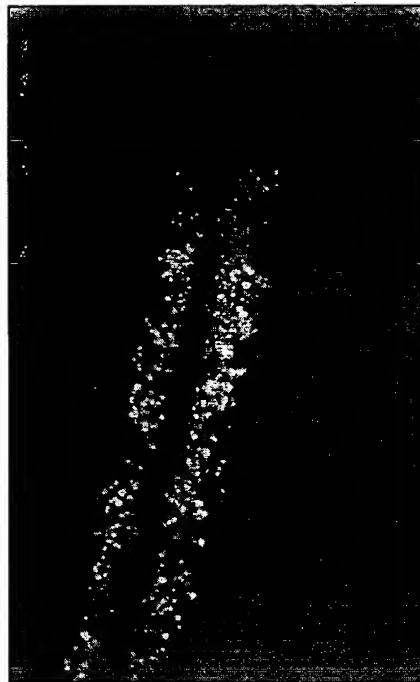


Fig. 11A



Fig. 11B

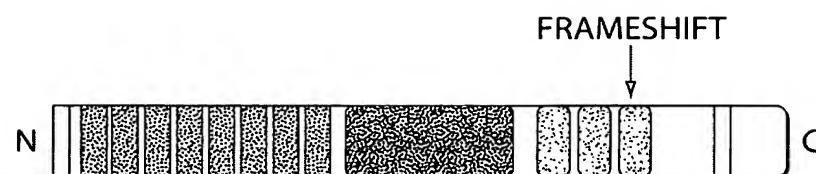


Fig. 11C

lpo-1 genomic

SEQ ID NO:1

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Fig. 11D Cont.

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Fig. 11E

LPO-1

SEQ ID NO:3

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Fig. 11F

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	human	MGTSALWALLLLALCWAPRESGATGTGRKAKCEPSQFQCTNGRCITLLWKC'DGDEDCTD	60	(SEQ ID NO:9)
5	lpo-1	MRTCLTLTGFLISMATISVGLQPMGAPTRKCDATNSFQCQDGRCIPMSWRCDGDIDCQN	60	(SEQ ID NO:3)
		* * . : : * * : : . . . : . . . * * : * * * * . : * * * * * : .		
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	human	GSDEKNCVKKTCAESDFVCKNG-----QCVPSRWKCDGDPDCEDGSDESPEQCHMR	111	
10	lpo-1	EEDEKNCPKVCGAEEHKGEVKSARSSLERFKCIPNKWVCDGEFDCEDKSDE--FQCKNV	118	
		* * * * * . * * .. : : : : . : * : * . : * * * * . * * * * * : .		
	RAT	TCRINEISCGARS---TQCIPESWRCDGENCDNGEDEENCGNIT--CSADEFTCSSGRC	166	
	human	TCRIHEISCGAHS---TQCIPVSWRCDGENCDSGEDEENCGNIT--CSPDEFTCSSGRC	166	
15	lpo-1	SCQEKFQFQCEELSGDYSLCIPETWVCDGQRDCTNGKDEQNCTSJKCPDNNFQCSNGNC	178	
		: * : : : . * . : * * : * * * ; * . * ; * * : * . * : * . : * * . * .		
	RAT	VSRNFVCNGQDDCDDGSDELDCAAPTCG-----AHEFQCRTSSCIPLSWVCDDADC	218	
	human	ISRNFVCNGQDDCSDGSDELDCAAPTCG-----AHEFQGSTSSCIPISWVCDDADC	218	
20	lpo-1	IFKNWVCDGEEDCSDGSDELLTAPSNCNRTVNQCPPGEMWKCGSGECIPSRWRCAEVDC	238	
		: * : * * ; * : * . * * * * . * .. . : * : . * * * * * * : . * * .		
	RAT	SDQSDESLEQCGRQPVIHTKCPTEIQCQSGE-CIHKKWRCDGDPDCDGSDENCPSR-	276	
	human	SDQSDESLEQCGRQPVIHTKCPASEIQCQSGE-CIHKKWRCDGDPDCDGSDENCPSR-	276	
25	lpo-1	KDHSDE---KNCTAIQHTCKLAEFACKASHNCINKAFVCDGELCDCSDGSDEDDCADVR	294	
		. * ; * * * . . . : * * . : * : . * * * ; * : * * * . * * * * : * ..		
	RAT	-TCRPDQFCECEDGS-----CIHGSRQCNIGIRDCVDGSDEVNCKNV--QCLGPG	322	
	human	-TCRPDQFCECEDGS-----CIHGSRQCNIGIRDCVDGSDEVNCKNV--QCLGPG	322	
30	lpo-1	TECKSGERTCPASGYGAEQSHVVCIPASSWCNGEEDCPDGGDEKECNMTAPVTCQKGT	354	
		: * : . . * . . : . . : . * . * . * * . * * . * * : * : . . * .		
	RAT	KFKCRSG--ECIDITKVCD-QEQDCRDWSDEPLKECHINECLVNNGGCSHICKDLVIG-Y	378	
	human	KFKCRSG--ECIDISKVCN-QEQDCRDWSDEPLKECHINECLVNNGGCSHICKDLVIG-Y	378	
35	lpo-1	EYECPSTPLQCIEMSKLCASAQFDGCGDNMSVCSQKKIIEMCKPSSEGCVCRPSFVRGNN	414	
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	RAT	ECDAAGFELIDRKTGDIDECQNPQGICSQICINLKGGYKCECSRQYQMDLATG-----	432	
	human	ECDAAGFELIDRKTGDIDECQNPQGICSQICINLKGGYKCECSRQYQMDLATG-----	432	
40	lpo-1	VCHCKDGYKLEN-GQCIDINECEIAGVCDQICLNPSPGSRVACHAGYQISFGDTKIGSGR	473	
		* . * . * : * . * * : * . * : * . * * : * . * . *		
	RAT	--VCKAVGKEPSLIFTNRRDIRKIGLERKEYIQLVEQLRNTVALDADIAAQKLFWADLS	489	
	human	--VCKAVGKEPSLIFTNRRDIRKIGLERKEYIQLVEQLRNTVALDADIAAQKLFWADLS	489	
45	lpo-1	IANKCRAAGGGDPLVLLTNRHTIRQFDLVNKMFVSSSPGSAVAMDFHILNGLIWSDVL	533	
		: . * : * : * . * : : * * : * : * : . * : . . . : * : * . * . * : * :		
	RAT	QKAIFSASID-----DKVGRHFKMDNVNPAAIAVDWVYKTIYWTDAASKTI	537	
	human	QKAIFSASID-----DKVGRHVFKMDNVNPAAIAVDWVYKTIYWTDAASKTI	537	
50	lpo-1	SKQILKCSIGNVSNAFLGTDMDCDKHEIVLTGDKIHTPDLGAVDWHVHDLLFWTDGGLDQI	593	
		. * * : . * * .. . : . . . * . . . * . . . * : * * * : . . : * * . . . * .		

Fig. 11G

	RAT	SVATLDGTRKFLFNSDLREPASIAVDPLSGFVYWSDWGEPAKIEKAGMNGFDRRPLVTE	597
	human		
5	lpo-1	SVATLDGTRKFLFNSDLREPASIAVDPLSGFVYWSDWGEPAKIEKAGMNGFDRRPLVTA	597
		NVLDMKNGKQRVLYSSDLEEPRAIAVDPEVGLIFWTDWGKKARIERSGMDGQHRTVIVEG	653
		.* ... *::.*:****.* :***** *::*:***: *:**:***.* .* :*	
	RAT		
	human		
10	lpo-1	D-IQWPNGITLDLVKSRLYWLDLSKLHMLSSVDLNGQDRRIVLKSLEFLAHPLALTIFEDR	656
		D-IQWPNGITLDLKSRLYWLDLSKLHMLSSVDLNGQDRRIVLKSLEFLAHPLALTIFEDR	656
		DRVVWPNGLALDYVDKRVYWLMPRSSQSS-----	682
		* : ****:;** :.*:*** .: * *	
	RAT		
	human		
15	lpo-1	VYWIDGENEAVYGANKFTGSELATLVNNLNDAQDI IYHELVQPSGKNWCEEDMENGGCE	716
		VYWIDGENEAVYGANKFTGSELATLVNNLNDAQDI IVYHELVQPSGKNWCEEDMENGGCE	716
		-----VFTGADIRTVMDQVKSPMTVRIYHKQAQPLMQNKENSE---CD	723
		****:; *:;:;: . : :** . ** :* **: . *: .	
	RAT		
	human		
20	lpo-1	YLCLPAPQINDHSPKYTCSCPNGYNLEENGRECQSTSTPVTYSETKDVNTTDILRTSGLV	776
		YLCLPAPQINDHSPKYTCSCPNSGYNVEENGRDCQSTATTVTYSETKDTNTTEISATSGLV	776
		HLCLPRAVYREKE-----RVHEKTWHDRPFSCACEGTTASDVLECFADLETK	770
		:**** . . :. . : : : . * . . : .	
	RAT		
	human		
25	lpo-1	PGGINTTAVSESVVPPKGTSAAWAILPLLLLVMMAVGGYLMWRNWQHKNMKSMNFDNPV	836
		PGGINTTAVSESVVPPKGTSAAWAILPLLLLVMMAVGGYLMWRNWQHKNMKSMNFDNPV	836
		SG-----ISMFTIFLLLGVGGVVAAGFVIVRRKMGPRFTALNFDNP	813
		. * * : * : : * * : : * : . : . : :****:.	
	RAT		
	human		
30	lpo-1	YLKTTEEDLSIDIG-----RHSASVGHTYPAISVVSTDDLA----	873
		YLKTTEEDLSIDIG-----RHSASVGHTYPAISVVSTDDLA----	873
		YRRTTTEEADHQMEDPFRDPFAEPRNNGRGRNDGLPTLASADNETRADALSF	863
		* .	

Fig. 11G Cont.

Title: Polynucleotide and Polypeptide Fat Metabolism

Regulators and Uses Thereof

Applicant: Ruvkun et al.

Serial No.: 10/617,351

Docket No.: 00786/423002 Customer No.: 21559

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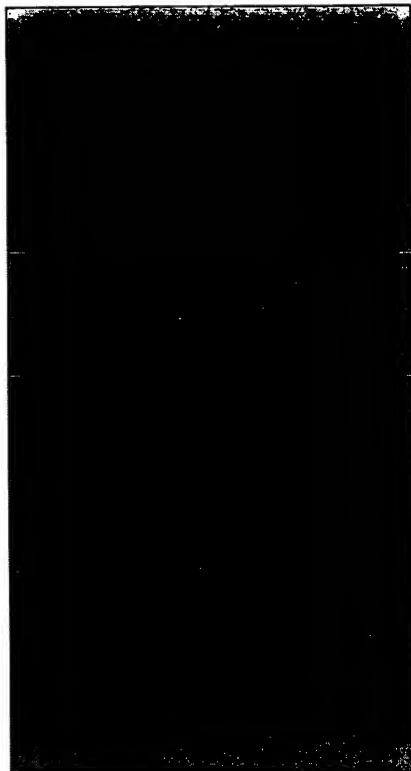
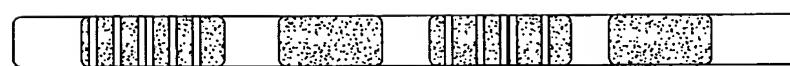


Fig. 12A



Fig. 12B



 ABC TRANSPORTER REGION

 TRANSMEMBRANE REGION

Fig. 12C

LPO-3 Unspliced DNA (7496 bp)

SEQ ID NO:4

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 GGAAATATTG TTGAATCTGG AAGTCATGAG GAATTAATGA GCAAACAAAGG AATCTTCTAC GATATGACAC
 AGGCTCAAGT TGTCGACAA CAGCAACAGG AAGCAGGAAA AGgttaattct aatgtttaag gaaaactaat
 5 atagattaaa tttcagATAT TGAAGACACT ATTTCTGAGT CAGCTCATTC CCATCTCAGC AGAAAGTCTT
 CCACAAGAAG TGCCATTCA ATTGCAACAT CTATTCA GCTCGCTGAG GAGGTTGAGG tacgaaaata
 attacttatt tcttttgggtt tttgaagggtt gaggatcgatc agtggggatt tactacatgc ataatagtca
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 attggcaaat gtttggaaaaa ttgggctttt caaagaaatt taagcaatgc cgcatgttcg atcttctaca
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 cttccaaaat tatgaggTGC gaaacctgag gaatttcaac ttattgactg taaaaaatta atataatttt
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lpo-3

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LPO-3

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IVESQ

Fig. 12F

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Fig. 12G

Title: Polynucleotide and Polypeptide Fat Metabolism
Regulators and Uses Thereof
Applicant: Ruvkun et al.
Serial No.: 10/617,351
Docket No.: 00786/423002 Customer No.: 21559
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Fig. 13A



Fig. 13B

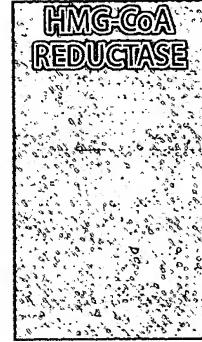


Fig. 13C

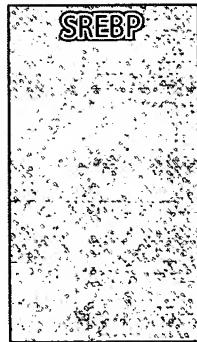


Fig. 13D

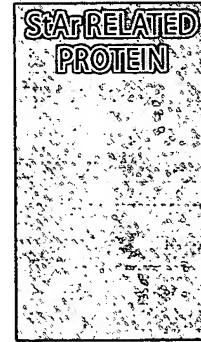


Fig. 13E

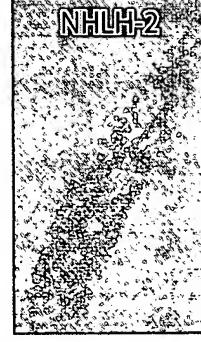


Fig. 13F